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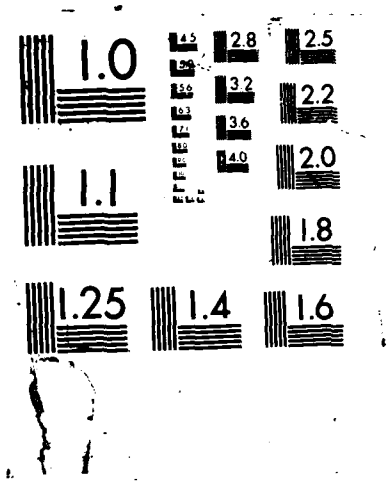
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AD-A187 361

TRACKER: A Prototype Anti-Terrorism Research Data Base

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From: Commanding Officer, Navy Personnel Research and Development Center

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1. The research reported herein was funded in-house to support the organization and administration of an anti-terrorism research thrust. The data base will facilitate the collection, entry, storage, and retrieval of information related to terrorist activities and anti-terrorism research.

2. The data base model shows promise for adoption and adaptation to the needs of several governmental and private agencies. Consequently, the research reported herein may be expected to benefit the military and civilian research communities, as well as governmental agencies whose mandate embraces study of terrorist activities or response to those activities.

JOHN J. PASS
By direction

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TRACKER: A Prototype Anti-Terrorism Research Data Base

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This report contains the description of a prototype anti-terrorism data base model and users manual.

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SUMMARY

Problem

A user-friendly, portable data base was needed for the entry, storage, and retrieval of information on terrorist incidents, terrorist groups, sources of information, and anti-terrorism research in progress.

Approach

A data base model was developed using a commercially available software package. Representative information was loaded into the data base files and the system was demonstrated to potential users. Based on suggestions received at the demonstrations, the system was refined and a users manual written.

Results

A model anti-terrorism research data base called TRACKER was developed. TRACKER is easily customized to the particular needs of an organization. In addition, TRACKER has potential applications in addition to anti-terrorism research.

Recommendations

Information concerning the availability of TRACKER software and the users manual should be widely disseminated.

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INTRODUCTION

Research in the domain of anti-terrorism encompasses most of the customary personnel, training, and human factors research concerns. They are focused, in this case, on the problem of the prevention of terrorist incidents and the minimization of the effects of terrorist incidents through both active and passive measures.

Critical to the pursuit of research in anti-terrorism is a data base that contains accurate, comprehensive, and up-to-date historical information. Terrorist incidents are an increasing threat worldwide, making their analysis and prediction of great concern to both the military and civilian communities at home and abroad. Terrorist groups proliferate rapidly; they frequently have a number of names and/or overlapping personnel structures, and are often mutually supportive. Information on these groups must be carefully collected and retained. Again, research relevant to anti-terrorism may be conducted within a number of personnel, training, and human factors efforts. A means of recording and tracking the many efforts that may be underway in the military and civilian research communities is needed to prevent duplication of effort as well as to permit timely dissemination of research products and the sharing of information. Finally, rapid entry and retrieval of the information obtained is a paramount concern, particularly for field research.

At the time this project was initiated, anti-terrorism constituted a strategic research thrust at Navy Personnel Research and Development Center (NAVPERSRANDCEN). Accordingly, a contract effort was undertaken to develop a data base model that would meet the following specifications:

1. The data base would subsume three separate data bases:

    a. An incident file.
    b. A terrorist groups file.
    c. A sources of information and research project file.

2. The data base would be automated, capable of being operated on an IBM-PC or compatible mircocomputer.

3. The automated data base would utilize commercially available software and feature user-friendly, menu-driven programs, enabling easy access to the data base as well as data entry and retrieval by computer-naive clerical staff.

4. The files contained within the data base must be easily updated and the file structure easily expandable.

5. The data base must lend itself to interface with extant data bases maintained by governmental and private agencies.

6. For the model (or demonstration system), only unclassified information would be used.

APPROACH

Development of the data base proceeded in the following stages:

1. Specification of the elements to be in the data base.

2. Specification of the screen format.

3. Selection of commercially available software.

4. Collection and organization of representative information on terrorist incidents, terrorist groups, information sources, and research in areas germane to anti-terrorism.

5. Programming and debugging.

6. Loading sample information into the data base files.

7. Demonstration of the data base to selected organizations.

8. Data base refinement.

9. Development of a users manual.

RESULTS

Data Element and Screen Format Specification

Data elements that would be required in the data base files were determined through consultation with government and civilian researchers and were selected for use in the data base model according to the criteria of probable research requirements, information acquirability, understandability, and video display screen capacities. Data element specifications were made by establishing data fields of appropriate length, given the probable needs of potential users, the ability to use coded information, and display screen capacity.

Screen format was established logically, emphasizing probable sequence of data entry, probable retrieval requirements for the data elements, and overall screen readability. Data elements and screen format are portrayed in Figures 1, 2, and 3.

Software Selection

The dBase III Plus software program was chosen because of: (1) its wide acceptance and use within the government, (2) the ease with which it lends itself to creation of model data bases, (3) its allowance for the extensive use of menus for creation and maintenance of data bases, (4) the ease with which dBase can accommodate interactive queries, and (5) its support of a straightforward and friendly conversion process for porting data to and from other computers, both mainframe and standalone.

```
-----------------------------------------------------------------------------------------------

                          Terrorist Incident Report

     Incident No.:          Date: [  /  /  ]  Group Code: [     ]
                              C)laim, A)llege, P)rove:    [ ]
     City: [                      ]        Country Code: [   ]

     Target Code: [   ]      Other Target: [                  ]

     Method Code: [   ]      Other Method: [                  ]

       Pers Killed   Trgt: [     ]  Pers Injured  Trgt: [     ]
                  Bystd: [     ]                Bystd: [     ]

     Damage: $ [          ] Other Damage: [                  ]

     Demands: [memo]           Source: [                    ]

     Rmks: [                                              ]

^PgDn=Ed Memo Fld ^W=Save Rec/Memo ^Q=quit PgDn=Next Rec PgUp=Prev Rec

-----------------------------------------------------------------------------------------------
```

Figure 1. Data elements and screen format terrorist incident file.

```
-----------------------------------------------------------------------------------------------
                          Terrorist Group Screen

   Grp Code: [     ] Grp Type: [                        ]    Rcd:   107

   Name:   [                                                 ]

   AKA: 1. [                                                 ]
       2. [                                                ]

   Cntry: [                    ]Leaders: [
                                          ]
                    Allies                          Type Ally
   [                                              ][          ]
   [                                              ][          ]
   [                                              ][          ]
   [                                              ][          ]
   [                                              ][          ]
                  Splinter Grps                       Reason
   [                                              ] [memo]
   [                                              ] [memo]
   [                                              ] [memo]
   Rmks: [                                                ]

^PgDn=Ed Memo Fld ^W=Save Rec/Memo ^Q=quit PgUp=Prev Grp  PgDn=Nxt Grp

-----------------------------------------------------------
```

Figure 2. Data elements and screen format for the terrorist group file.

Sources of Information

Category: [ ] ([I]ncidents or [R]esearch) Src No.:

Name: [ ]
Desc: [memo]
Street: [ ] Zip: [ ]
City: [ ] POC: [ ]
State: [ ] Phone: [( ) -]
Country: [ ]

Type Org.: [ ] (1>Acad 2>Govt 3>Quasi-gov 4>Cons 5>Corp)

Medium Avail: [ ] Hardcopy [ ] Floppy (PC) [ ] Tape [ ] Modem

Pub Title: [ ] Date: [/ /]
Research Desc: [ ]
File Id: [ ] Data Elements: [memo]

Freq. of Update: [ ]

Availability: [ ] (1>Sale 2>Agency Only 3>Govt Only 4>Publ Domain)

^PgDn=Ed Memo ^W=Save Rec/Memo ^Q=Quit PgDn=Next Rec PgUp=Prev Rec

---

Figure 3. Data elements and screen format for the sources of information file.

Sample Information Collection and Organization

Information on terrorist incidents, terrorist groups, information sources, and research projects was collected from unclassified sources, primarily news media. Only the amount of information needed to demonstrate the capabilities of the data base was collected.

Information was organized to permit its entry into the relevant data elements on the various screen formats. To increase user friendliness and efficiency of operations, coding systems were developed for: (1) terrorist groups, (2) terrorist targets, (3) terrorism methods, and (4) countries. System users need only to enter short codes rather than lengthly names or descriptions.

Programming and Debugging

Subsequent to writing the screen dialogue and determining the file structure, the programs were developed. The programming for the data base model incorporates some 1600 lines of code and consists of a series of dBase Plus-based unique programs and associated files.

A number of menus assist the system user to accomplish the various tasks with minimum keystrokes. A macro flowchart detailing the menus incorporated in the data base is shown as Figure 4. Examples of actual menus for entry into the main files are shown in Figures 5, 6, 7, and 8.

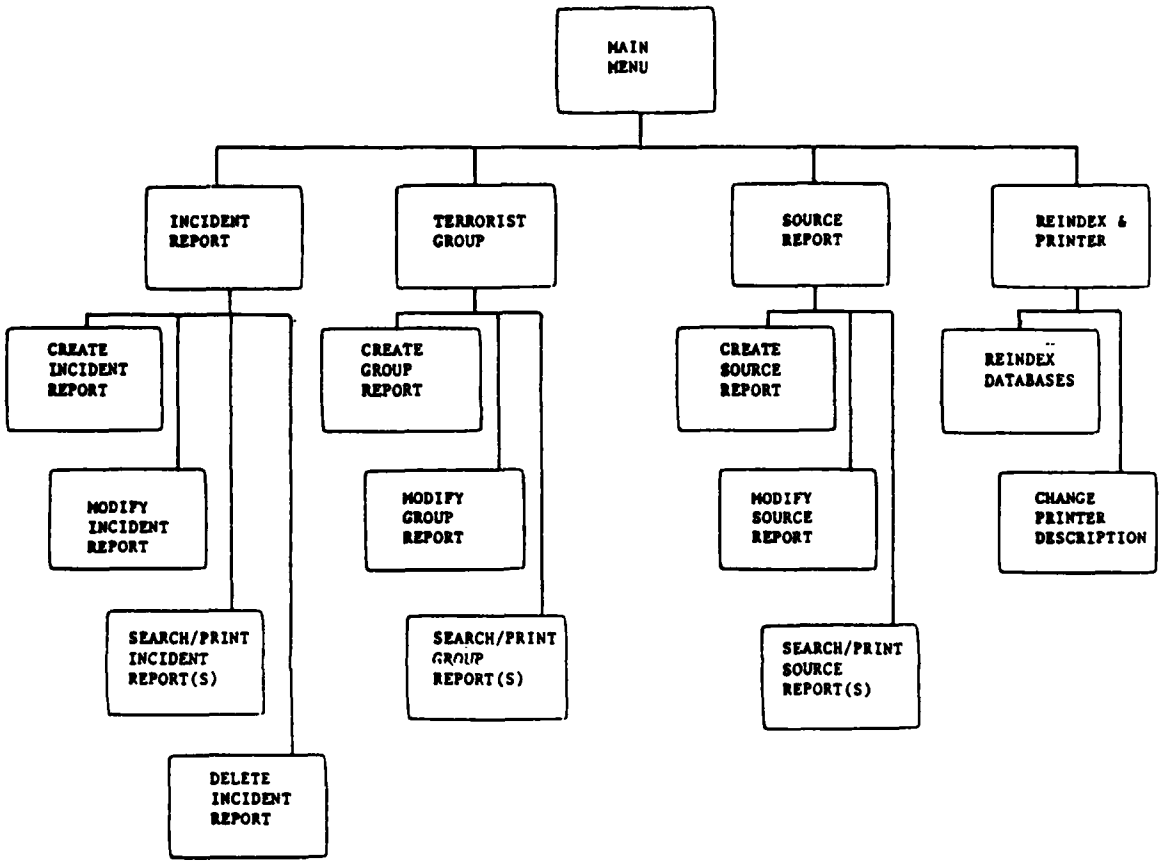

Figure 4. Macro flowchart of the TRACKER system.

Terrorist Incident & Group Reporting System

MAIN MENU

KEY			FUNCTION
I	INCIDENT	-	Create, Modify or Search/Print
G	GROUP	-	Create, Modify or Search/Print
S	SOURCE	-	Create, Modify or Search/Print
D	PACK	-	Delete recs marked for deletion
P	PRINTER	-	Change Description
R	REINDEX	-	All Databases (After Every Session)
E	EXIT		

Press I, G, S, D, R, P or E.

Figure 5. TRACKER system main menu.

Terrorist Incident & Group Reporting System

TERRORIST GROUP

KEY	FUNCTION
C	CREATE Terrorist Group Report
M	MODIFY Terrorist Group Report
S	SEARCH/PRINT Terrorist Group Report(s)
E	EXIT

Press C, M, S or E.

Figure 6. Entry menu for terrorist group file.

Terrorist Incident & Group Reporting System

SOURCE REPORT

KEY	FUNCTION
C	CREATE Source Report
M	MODIFY Source Report
S	SEARCH/PRINT Source Report(s)
D	DELETE Source Report
E	EXIT

Press C, M, S, D, or E.

Figure 7. Entry menu for sources of information file.

Terrorist Incident & Group Reporting System

INCIDENT REPORT

KEY	FUNCTION
C	CREATE Incident Report
M	MODIFY Incident Report
S	SEARCH/PRINT Incident Report(s)
D	DELETE Incident Report
T	Edit CODE Tables
E	EXIT

Press C, M, S, D, T or E.

Figure 8. Entry menu for terrorist incident file.

The programming supports many tasks, such as:

1. Creation and maintenance of incident, group, information source, and research project records.

2. Generation of reports for each of the records noted in the preceding paragraph.

3. Searching each of the data base files using keywords and generating ad hoc reports based on those searches.

4. Browsing through each of the data base files.

In addition to the menu-assisted tasks, the programming supports the development of customized user tasks.

Subsequent to the programming, all screens were edited for spelling error and readability, and all programs were debugged.

Information Loading

Sufficient information was loaded into each of the files to permit system demonstration and hands-on tryout.

System Demonstration and Refinement

In addition to demonstrations for NAVPERSRANDCEN staff, TRACKER was demonstrated to potential user organizations to garner their user reactions and suggestions for system refinements. Demonstrations were conducted at the Naval Security and Investigative Command, the Federal Bureau of Investigation (FBI Academy), the Psychology Department of the Ohio State University, and the RAND Corporation. To demonstrate the ease with which TRACKER could be converted into a mobile system, the demonstrations were also given on an ultraportable (lap-top) microcomputer (Toshiba).

Several suggestions received from demonstration attendees were incorporated as system refinements.

Development of a Users Manual

A Users Manual was written covering the installation of TRACKER on a user's IBM-PC or compatible microcomputer, and each of the tasks or functions supported by the data base. The manual was edited for clarity and readability.

DISCUSSION

The demonstrations were generally well received. Several of the demonstration attendees were very interested in TRACKER's user-friendliness (i.e., the ease with which a computer-naive member of a clerical support staff could enter, modify, and retrieve data) and the system's portability.

For example, major governmental and private research organizations own or have access to major large data bases. However, persons doing on-site investigation have no need for the global data base, must tie in by phone link, and endure lengthy (and costly)

searches. With TRACKER, on the other hand, the requisite portion of a large data base--and only that portion--could be downloaded to the TRACKER (perhaps on a lap-top computer) and taken on-site. Updating either TRACKER's or the mainframe's data base in two-way communication could also be easily accomplished.

Given the need for mobility that is endemic to the military lifestyle, as well as that of terrorism investigators, TRACKER should constitute an impressive addition to the equipage of those working in the arena of anti-terrorism.

Finally, TRACKER can be adapted for collection and storage of information on any kind of incidents, groups, individuals, sources, projects, etc.

CONCLUSIONS AND RECOMMENDATIONS

The TRACKER Anti-Terrorism Data Base appears to meet or exceed its developmental specifications. Unfortunately, given the lack of an anti-terrorism research focus at NAVPERSRANDCEN, it cannot be immediately implemented at the Center. Nevertheless, several agencies are considering adapting and customizing it.

To activate TRACKER, all that is required is to load the relevant information into the data base, and, if desired, customize any of the functions.

It is recommended that the availability of the data base and the user manual be widely disseminated.[1]

[1] Information on the TRACKER Anti-Terrorism Data Base is available from NAVPERSRANDCEN (Code 62).

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